REMARKS

Reconsideration is requested in view of the above amendments and the following remarks. Claims 24 and 29 have been revised. New claims 32-46 have been added. Claims 1-20, 22 and 25-27 have been canceled without prejudice. Claims 24 and 28-46 are pending in the application. Applicants note that the Summary Sheet of the Office Action lists claims 1-31, rather than claims 1-20, 22 and 24-31, as pending.

The revisions and new claims are supported by the original disclosure. No new matter has been added.

The revisions in claim 24 are supported by, e.g., original claims 22 and 27 and page 18, lines 26-30, and page 19, line 28 to page 20, line 7 of the specification, among other places.

The revisions in claim 29 are supported by, e.g., page 20, lines 8-13 and 18-26 of the specification, among other places.

New claims 32-36 track original claims 2, 3, 8, 9 and 11, respectively.

New independent claim 37 is supported by, e.g., page 19, lines 14-15 of the specification, among other places.

New claims 38-41 track original claims 25, 28, 2 and 3, respectively.

New independent claim 42 is supported by, e.g., page 19, lines 17-19 and page 22, line 29 of the specification, among other places.

New claims 43-46 track original claims 25, 28, 2 and 3, respectively.

Claim Rejections – 35 USC § 102

Claims 1-2, 4-6, 8-11, 17, 20, 24 and 28 are rejected under 35 USC § 102(b) as being anticipated by Japanese Patent Publication No. JP 2000-215872. Applicants respectfully traverse this rejection. The rejection of claims 1-2, 4-6, 8-11, 17 and 20 is moot in view of the cancellation of those claims. Claim 24 has been revised to include the limitations of original claims 22 and 27, which are not subject to this rejection; thus, claim 24 and its dependent claim 28 are not subject to this rejection. Applicants are not conceding the correctness of the rejection for the claims.

Claim Rejections – 35 USC § 103

Claims 3, 7 and 12-14 are rejected under 35 USC 103(a) as being unpatentable over JP 2000-215872 in view of von Blucher et al. (US 4,610,905). The rejection of claims 3, 7 and 12-14 is moot in view of the cancellation of those claims. Applicants are not conceding the correctness of the rejection for the rejected claims.

Claims 15 and 16 are rejected under 35 USC 103(a) as being unpatentable over JP 2000-215872 in view of European Patent Publication No. 0 432 489. The rejection of claims 15 and 16 is moot in view of the cancellation of those claims. Applicants are not conceding the correctness of the rejection for the rejected claims.

Claims 18-19, 22, 25-27 and 29-31 are rejected under 35 USC 103(a) as being unpatentable over JP 2000-215872 in view of Foster et al. (WO 95/06769). The rejection of claims 18-19, 22 and 25-27 is moot in view of the cancellation of those claims. Applicants are not conceding the correctness of the rejection for claims 18-19, 22 and 25-27.

Claim 24 has been revised to include the limitations of claims 22 and 27. Claim 24 is patentable over JP 2000-215872 in view of Foster et al. for the following reasons.

Claim 24 requires performing heat-and-humidity treatment on a binder resin that includes heat-and-humidity gelling resin in a heat and humidity atmosphere to cause the heat-and-humidity gelling resin to gel, so that the filler is affixed to the fiber surface by the binder resin that has been subjected to heat and humidity to form a gel material, wherein the heat-and-humidity gelling resin is in a gel state when subjected to heat and humidity. Claim 24 further requires performing heat-and-humidity treatment with a heat and humidity atmosphere that has a temperature range from not less than a gelling temperature of a heat-and-humidity gelling resin to not more than a melting point minus 20°C.

The present method is advantageous in that it helps maintain the shape of the fiber since the heat-and-humidity gelling resin fiber component is caused to gel at a temperature not more than the melting point minus 20°C and thereby shrinkage or

hardening of the fiber is prevented. The shape of the nonwoven fabric is in turn maintained (see, e.g., page 3, lines 13-21 of the specification, among other places).

The rejection acknowledged that JP 2000-215872 is silent as to the specifics of a steam process. Foster et al. do not remedy the deficiencies of JP 2000-215872.

Foster et al. fail to teach or suggest performing heat-and-humidity treatment on a binder resin that includes heat-and-humidity gelling resin in a heat and humidity atmosphere to cause the heat-and-humidity gelling resin to gel, so that the filler is affixed to the fiber surface by the binder resin that has been subjected to heat and humidity to form a gel material, wherein the heat-and-humidity gelling resin is in a gel state when subjected to heat and humidity, as required by claim 24. Instead, Foster et al. merely discuss use of high temperature superheated steam jets 12 to impinge on a fiber web 11 to melt a melt component fiber and fuse the fiber together (see Foster et al., page 5 and Figs. 1-3). Foster et al. provide no teachings or suggestions of causing a heat-and-humidity gelling resin to gel so that a filler is affixed to a fiber surface by the binder resin, wherein the heat-and-humidity gelling resin is in a gel state when subjected to heat and humidity, as required by claim 24.

Nor do Foster et al. teach or suggest performing heat-and-humidity treatment with a heat and humidity atmosphere that has a temperature range from not less than a gelling temperature of a heat-and-humidity gelling resin to not more than a melting point minus 20°C, as required by claim 24. On the other hand, Foster et al. discuss melting a melt component fiber by high temperature superheated steam jets 12 to fuse the fiber together to make nonwoven fabric (see Foster et al., page 5). Nowhere do Foster et al. teach or suggest use of a heat and humidity atmosphere that has a temperature that is not more than a melting point minus 20°C.

Moreover, the present record does not provide any teachings or suggestions of the advantages enjoyed by the process of claim 24, e.g., helping maintain the shape of the fiber since the heat-and-humidity gelling resin fiber component is caused to gel at a temperature not more than the melting point minus 20°C, and thereby helping maintain the shape of the nonwoven fabric by preventing the fiber from shrinking or hardening. In fact, Foster et al. discuss melting a melt component of a fiber, that is, heating a melt

component to a temperature that is at least equal to or higher than the melting point of the melt component. This is completely distinct from the invention of claim 24, which requires a temperature of not more than a melting point minus 20°C.

For at least these reasons, claim 24 is patentable over JP 2000-215872 in view of Foster et al. Claim 28 depends from claim 24 and is patentable along with claim 24 and need not be separately distinguished at this time.

Claim 29 requires performing a heat-and-humidity mold processing on the fiber structure in a pair of metal dies. Claim 29 further requires causing the binder resin including heat-and-humidity gelling resin to gel under heat and humidity in a heat and humidity atmosphere, so that the filler is affixed to the fiber surface by a gel material produced by causing the heat-and-humidity gelling resin to gel, wherein the heat-and-humidity gelling resin is in a gel state when subjected to heat and humidity. The present molding process in a pair of metal dies helps mold the fiber structure into a predetermined shape, which follows the shape of the pair of metal dies.

The rejection acknowledged that JP 2000-215872 does not specifically teach a method of making a molded body as recited in claim 29. Foster et al. do not remedy the deficiencies of JP 2000-215872 for the following reasons.

Foster et al. fail to discuss performing a heat-and-humidity mold processing on the fiber structure in a pair of metal dies, as required by claim 29. Instead, Foster et al. merely discuss that a plenum chamber 21 backs a platen 22 with jet apertures 23 impinging a fiber web 11 supported on a perforated backing mesh or wire 24 (see Foster et al., Figs. 1-3 and page 5). The rejection contends that the teaching of the jets being in an aperture platen which can be raised from and lowered on top of the web, renders obvious the method of performing a heat and humidity mold processing in a pair of metal dies. However, Foster et al. merely discuss that the platen 22 can be raised from and lowered onto the top of the web 11 which can be moved intermittently a platen-length at a time, and that when the platen 22 in Foster et al. is raised, steam is applied, and when the travel is temporarily arrested, the platen 22 is lowered (see Foster et al., page 6, and Figs. 1-3). The focus of Foster et al. is "to prevent dangerous escape of high pressure, superheated steam and to provide for heat and possibly water recovery" (see Foster et al.,

page 6, lines 13-15). This is completely distinct from the invention of claim 29, which requires performing a heat-and-humidity mold processing on the fiber structure in a pair of metal dies to form a filler-affixed fiber and molding the fiber structure into a predetermined shape.

Moreover, Foster et al. fail to teach or suggest advantages enjoyed by the invention of claim 29, e.g., helping mold the fiber structure into a predetermined shape, which follows the shape of the pair of metal dies. Instead, as clearly shown in Figs. 1-3 of Foster et al., the non-woven fabric formed in Foster et al. appears to be in a sheet shape. Nowhere do Foster et al. teach or suggest the invention of claim 29, which requires molding a fiber structure into a predetermined shape.

Nor do Foster et al. teach or suggest causing the binder resin including heat-and-humidity gelling resin to gel under heat and humidity in a heat and humidity atmosphere, so that the filler is affixed to the fiber surface by a gel material produced by causing the heat-and-humidity gelling resin to gel, wherein the heat-and-humidity gelling resin is in a gel state when subjected to heat and humidity, as required by claim 29. Instead, Foster et al. merely discuss use of high temperature superheated steam jets 12 to impinge on a fiber web 11 to melt a melt component fiber and fuse the fiber together (see Foster et al., page 5 and Figs. 1-3). Nowhere do Foster et al. teach or suggest causing a heat-and-humidity gelling resin to gel so that a filler is affixed to a fiber surface by the binder resin, wherein the heat-and-humidity gelling resin is in a gel state when subjected to heat and humidity, as required by claim 29.

For at least these reasons, claim 29 is patentable over JP 2000-215872 in view of Foster et al. Claims 30 and 31 depend from claim 29 and are patentable along with claim 29 and need not be separately distinguished at this time.

Applicants submit that the features of new independent claim 37 are not seen in or suggested by the references of record. Claim 37 requires performing heat-and-humidity treatment on the binder resin that includes heat-and-humidity gelling resin in a heat and humidity atmosphere to cause the heat-and-humidity gelling resin to gel, so that the filler is affixed to the fiber surface by the binder resin that has been subjected to heat and

humidity to form a gel material, wherein the heat-and-humidity gelling resin is in a gel state when subjected to heat and humidity. Claim 37 further requires causing contact with a heated body, in which the heated body has a surface pressure of 0.01 to 0.2 MPa in a heat and humidity treatment.

The present record fails to teach or suggest the process of required by claim 37. For example, JP 2000-215872 fails to teach or suggest causing contact with a heated body having a surface pressure of 0.01 to 0.2 MPa. Foster et al. do not remedy the deficiencies of JP 2000-215872. Instead, Foster et al. merely discuss that the platen 22 can be raised from and lowered onto the top of the web 11 which can be moved intermittently a platen-length at a time, and that when the platen 22 in Foster et al. is raised, steam is applied, and when the travel is temporarily arrested, the platen 22 is lowered (see Foster et al., page 6, and Figs. 1-3). The focus of Foster et al. is "to prevent dangerous escape of high pressure, superheated steam and to provide for heat and possibly water recovery" (see Foster et al., page 6, lines 13-15). Nowhere does the present record teach or suggest causing contact with a heated body, in which the heated body has a surface pressure of 0.01 to 0.2 MPa in a heat and humidity treatment as required by claim 37. For at least these reasons, claim 37 is patentable over the references of the record.

Applicants submit that the features of new independent claim 42 are not seen in or suggested by the references of record. Claim 42 requires performing heat-and-humidity treatment on the binder resin that includes heat-and-humidity gelling resin in a heat and humidity atmosphere to cause the heat-and-humidity gelling resin to gel, so that the filler is affixed to the fiber surface by the binder resin that has been subjected to heat and humidity to form a gel material, wherein the heat-and-humidity gelling resin is in a gel state when subjected to heat and humidity. Claim 42 further requires causing contact with a heated body, and a treatment in which the heated body is compression molded by a pair of heat rolls, in which the heat rolls have a line pressure of 10 to 400 N/cm.

The present record fails to teach or suggest the process of required by claim 42. For example, JP 2000-215872 fails to teach or suggest causing contact with a heated

body that is compression molded by a pair of heat rolls having a line pressure of 10 to 400 N/cm. Foster et al. do not remedy the deficiencies of JP 2000-215872. Instead, Foster et al. merely discuss use of a perforated roller 32 with an interior plenum chamber 31, where a web 11 is guided around and pressed against the platen 21 by a perforated belt 34 running on rollers 35 (see Foster et al., Fig. 3 and page 6). The present record provides no teachings or suggestions of causing contact with a heated body that is compression molded by a pair of heat rolls, much less that the heat rolls have a line pressure of 10 to 400 N/cm as required by claim 42. For at least these reasons, claim 42 is patentable over the references of the record.

Applicants note again that the corrected form 1449 submitted on August 24, 2006 was not returned with the current Office Action. Confirmation of consideration for the reference cited in the corrected form 1449 is respectfully requested.

In view of the above, favorable reconsideration in the form of a notice of allowance is respectfully requested. Any questions regarding this communication can be directed to the undersigned attorney, Douglas P. Mueller, Reg. No. 30,300, at (612) 455-3804.

Respectfully submitted,

HAMRE, SCHUMANN, MUELLER & LARSON, P.C.
P.O. Box 2902-0902
Minneapolis, MN 55402-0902
(612) 455-3800

Dated: November 30, 2009

By: _____
Douglas P. Mueller
Reg. No. 30,300

DPM/cy